

\$80 million allotted for 1979 bush construction presents many challenges

The capital budget for the state of Alaska for FY '79 is no less than \$80 million in western Alaska alone.

The major portion of that amount is to be spent for schools. However housing, airport improvement, National Guard facilities, University of Alaska facilities, fish hatcheries and other projects are also budgeted.

The impulse of such a relatively large program will generate many problems. Transportation is the most obvious one; but just manning the jobs with workmen accustomed to working in western Alaska will be difficult.

The administration and coordination of the many jobs will tax the ingenuity of both large and small contractors. And the inspection and quality control of the projects will offer difficulties to the architectural and engineering companies involved.

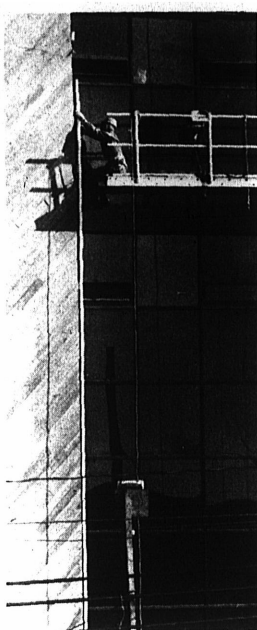
It can be expected that shipping from Seattle and other ports will require an extra kind of coordination because of the increased amount of freight; but the real problems will occur when delivery to the individual projects is undertaken. Much of western Alaska requires the use of lightering barges and river barges and tugs to reach the small towns and villages where the work takes place.

Of course these facilities are limited, and the men who manage them, and operate the equipment, are hard to find. It takes years of experience to know the tides and winds and waterlevels, and the varying effects of these factors. But reaching the destination may be one of the easier parts of the problem.

Transportation problems

Unloading the freight on the beach is tough, but getting it to the job site may be "impossible". The summer tundra is soft and subject to destruction by attempting to drive over it. A building a thousand feet from the river or the beach may be inaccessible without the use of mats or bridging, or simply waiting until winter freezes the tundra and covers it with a layer of protective snow.

Some projects will be supplied by a combination of water freight and helicopters. To do this the freight is prepackaged in slingloads weighing 3500 pounds or so. When the barge gets to within two or three miles of the



FINISHING TOUCHES are put on the Arctic Slope Region Corporation's new headquarters building at Barrow. It recently won an award for being one of the best designed buildings in the state.

—Photo by Rob Stapleton

project site the helicopters shuttle the material to the job. This operation has to be pre-planned, usually before the freight leaves Seattle, and, of course, is subject to all of the vagueries of weather and bad luck.

Some of the jobs are supplied by freight plane from Anchorage and Fairbanks and other terminal areas. This often is coordinated with freight flights to pick up fish during the mid-summer months.

Just because a superintendent can build a downtown multi-story building in Anchorage is no indication that he, or a crew he directs, can succeed with a 4000 square foot high school in a bush town. In fact, he probably won't. Finding men who have the kind of planning knowledge, and the gifts of diplomacy, patience, ingenuity, and persistence needed to complete such projects is tough.

And finding crews who enjoy this kind of labor is equally tough. Many of the superintendents and crewmen already live in the areas. Nome, Bethel, Kotzebue, and Pt. Barrow, and of course the towns too, have many experienced men. But many of them already have jobs. And many of them have other things to do. During certain seasons whaling, fishing, trapping and hunting have to be done, or these people have jobs that are more permanent

(See CONSTRUCTION, Page Ten)

● Construction

(Continued from Page Nine)

than the few months of labor offered by a housing project or a new school.

Finding men who can cope with the difficult camp conditions usually prevailing on these jobs also is difficult. Or finding men who can work efficiently at the relatively smaller scale of these jobs is difficult. And finding men who can cope with the wind and the rain often a problem; or men who can predict floods, and can also repair a radio. These are problems of bush construction.

Challenges to technology

The technology of many such projects is not yet established. Foundation designs are highly experimental, not only as to the theoretical considerations but also as to the simple fact of accomplishment. Drilled or driven piling foundations are extremely expensive and the post and pad often used as an alternative produces movement in later years and the possibility of constant maintenance.

The production of electrical power just to operate these buildings during their life requires high quality generators. Fuel storage facilities sufficient for a year's demand; maintenance problems, standby capability; all are problems extremely subjective in their solutions.

Even the design of buildings subject to a lifetime of high winds, wind blasted snow, high humidity, and sporadic maintenance is an unaccomplished art. Finding architects and engineers who would recognize such a building during its construction is an unaccomplished necessity. Although the technology of such construction is greatly advanced beyond its state 20 years ago, there are still a relatively few people who can consistently produce acceptable designs and long-lived, useful buildings.

The problems of construction are not limited to buildings. Airport construction in an area lacking gravel is

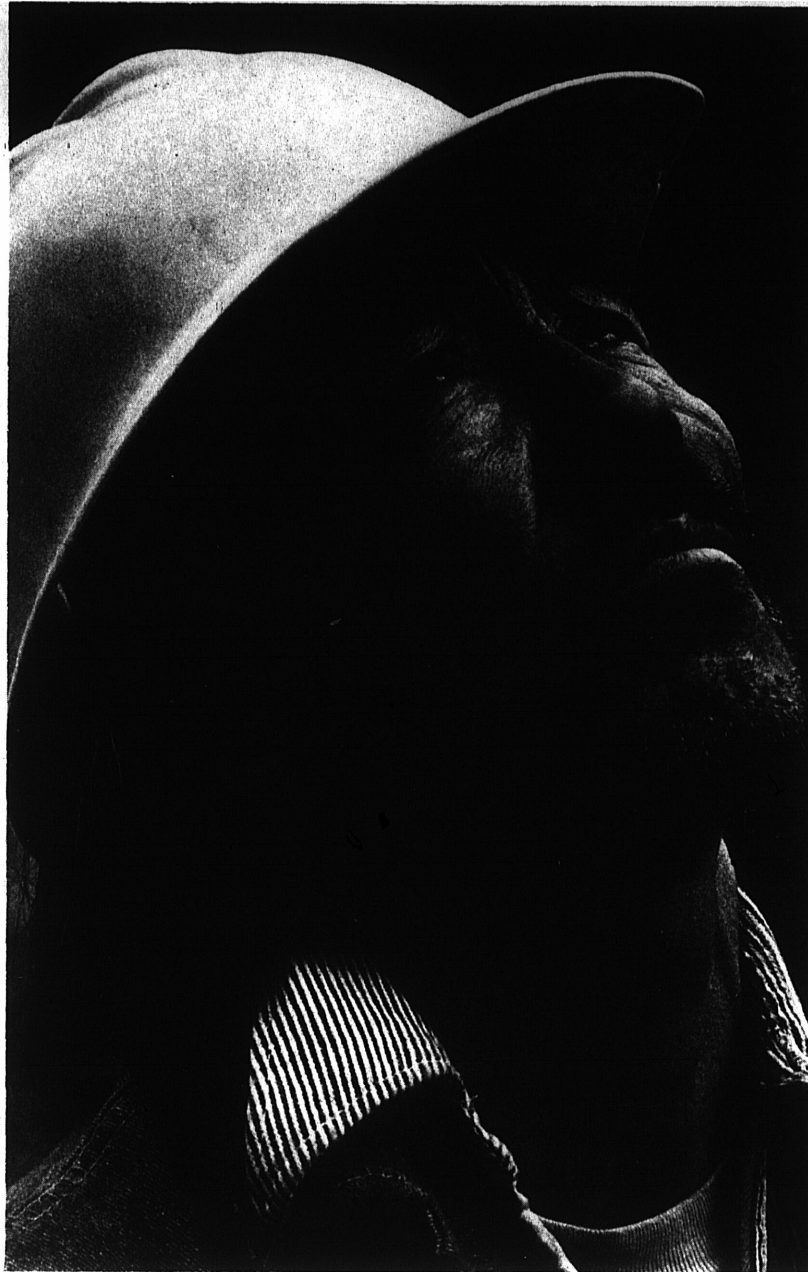
(See CONSTRUCTION, Page Eleven)

● Construction

(Continued from Page Ten)

costly. Roads are difficult to build, especially in areas where the good modern equipment must be brought in by air, or by barge and lighter. And bridge construction where piling depths may be a hundred feet requires not only first class equipment but first class supervision. Just financing the work on a project can amount to as much as a forty per cent of the final cost of the job. There are relatively few companies willing to gamble on such odds.

In spite of its difficulties bush construction is not without its pleasures. As a rule the project is one greatly welcomed by the community. The sense of anticipation of a new and much needed building, or water facility, or the lengthening of a runway is a reward to the men on the job. And, of course, the fact that jobs are available to qualified tradesmen and that other jobs will be available to maintenance personnel and the users of the building makes the project keenly anticipated. And then, of course, the whole process of change is the ultimate reward.



KEEPING A CLOSE WATCH — Native construction worker keeps a fine eye on progress as yet another structure goes up in rural Alaska. More and more Native craftsmen are taking over the task of building in Alaska's rugged environment using both new techniques and the common-sense wisdom of centuries.

—Photo by Rob Stapleton